



December 23, 2014

P:\PROJECTS\City of Modesto\12 Sites WP Implementation\Additional Work 2014\Reports\1st Quarter 2014 Groundwater\1stQuarter 2014 report_121214.doc

Mr. James Rohrer, PG
Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826-3200

RE: 4th Quarter 2014 Groundwater Monitoring Results, Elwood's Dry Cleaning Service (Elwoods), Modesto, California

Dear Mr. Rohrer:

This letter provides the sample results for the fourth quarter 2014 groundwater monitoring at IA1-MW-13. The groundwater monitoring is being conducted by the City of Modesto (the City) with oversight by the Department of Toxic Substances Control (DTSC). An Oversight Agreement HSA-A 01/02-115 (DTSC, 2002), collectively entered into by the DTSC and the City in March 2002 (the Oversight Agreement) included six dry cleaners in the City. The Oversight Agreement was modified on August 27, 2007 (Amendment to the Modesto Groundwater Oversight Agreement), to include the former Elwoods Dry Cleaners and five other existing or former dry cleaner sites to address the presence of tetrachloroethylene (PCE) in the soil and groundwater beneath the City.

In accordance with the March 27, 2014 *Vapor Monitoring Point Installation and Sampling; and Groundwater Monitoring Well Sampling, Elwood's Cleaners, Modesto, California* (Work Plan), two groundwater monitoring wells were sampled. This letter includes a discussion on the groundwater monitoring well sampling and analytical results.

Groundwater Monitoring

Groundwater samples were collected from IA1-MW-13B and IA1-MW-13C on July 18, 2014 using passive diffusion bag (PDB) samplers. PDB sampling was conducted consistent with the approach described in "*Technical and Regulatory Guidance for Using Polyethylene Diffusion Bag Samplers to Monitor Volatile Organic Compounds in Groundwater*", Interstate Technology and Regulatory Council, February 2004. The PDB sampling system consists of a stainless steel weight; nylon cable ties; an 18-inch long polyethylene diffusion bag; polyethylene rope that extends from the PDB to the ground surface; and a cable tie to attach the rope to the locking well cap.

TETRA TECH, INC.

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ED_005431_00000010-00001

PDBs were installed in groundwater monitoring wells to be sampled. The bags were removed from the wells and the groundwater samples were transferred into 40-millileter (mL) VOA vials using supplied straws from EON Products. The samples were stored on ice in a cooler until they were submitted under chain of custody documentation to Test America Laboratories, Pleasanton, California and analyzed using EPA method 8260B. The complete laboratory reports are presented in Attachment A and selected analytical results are presented in Table 1, including PCE and related breakdown products trichloroethylene (TCE), cis-1,2-dichloroethylene (cis-1,2-DCE), trans-1,2-DCE, and vinyl chloride (VC).

Jim Roher with DTSC, in an email dated 6/9/2014 (Attachment B), requested that the city sample both completions of IA1-MW-13 for 1,4-Dioxane. During the 3rd quarter 2014 monitoring event, 1,4-Dioxane was added as a requested analyte to EPA method 8260B for VOCs. Test America informed William Schmierer in an email that they do not analyze 1,4-Dioxane by EPA 8260B. The duplicate sample, IA1-MW-13C-DUP, sent to California Laboratory Services (CLS) was analyzed for 1,4-Dioxane by EPA method 8260B but had a reporting limit of 20. For the 4th Quarter 2014 sampling event, samples were collected for 1,4-Dioxane by installing a Grundfos Redi-flo 2 submersible pump in both completions of IA1-MW-13. The wells were purged using low-flow until parameters stabilized. Disposable tubing was used for each well. Purge water and decontamination water were placed in a drum for off-site disposal. Samples were placed in a thermally insulated container with ice and hand delivered to Test America's Laboratory in West Sacramento, California. Test America then sent the samples to their lab in Irvine, California for analysis of 1,4-Dioxane by EPA method 8270C.

Groundwater Quality Results

PCE concentrations were 16 µg/L in well IA1-MW-13B and 18 µg/L in well IA1-MW-13C (Table 1). A duplicate sample of IA1-MW-13C sent to CLS Labs in Rancho Cordova had a concentration of PCE of 25 µg/L. This is the seventh time that samples have been collected from both completions at IA1-MW-13.

1,4-Dioxane was detected at low concentrations in both completions of IA1-MW-13. IA1-MW-13B had 1.1 µg/L and IA1-MW-13B had 1.9 µg/L. The Test America did not provide any results for 1,4-Dioxane. The result from the duplicate sample (IA1-MW-13C-DUP) sent to CLS was reported as being below the reporting limit (<20 µg/L).

Mann-Kendall statistical analysis was performed on the PCE data set for both completions of IA1-MW-13 to evaluate potential PCE concentration trends. Seven sampling rounds have been completed (February 2013, May 2013, August 2013, November 2013, April 2014, July 2014, and November 2014) at IA1-MW-13. Guidance

TETRA TECH

documents for the Mann-Kendall Test suggest a minimum of eight to ten measurements, but the statistical analysis is provided herein to assist in evaluating the water quality data. The Mann-Kendall Trend Test documents are provided as Attachment C. The preliminary results of the Mann-Kendall analysis indicate a steady trend in IA1-MW-13B and an increasing trend in IA1-MW-13C PCE concentrations. The results are qualified because there is insufficient data to define a trend at the confidence level specified by the method in well IA1-MW-13B. There is now a statistically significant evidence of an increasing trend at the specified level of significance in well IA1-MW-13C. The Mann-Kendall Test will continue to be run for each successive quarterly monitoring event at both completions of IA1-MW-13. The last event will be the eighth sampling event, which meets the minimum data requirement for the method.

Closure

The groundwater wells at IA1-MW-13 B/C will be sampled next in February 2015. The water samples will be analyzed for VOCs. The wells will not be sampled for 1,4-Dioxane.

If you have any further questions about the water quality sampling at the Former Elwoods Cleaners, please call me at (916) 853-1800.

Thank you for your assistance in this matter.

Sincerely,



Stephen M. Carlton, PG, CHG
Principal Hydrogeologist



William F. Schmierer IV, PG
Project Geologist

cc: Mr. Roland Stevens, City of Modesto

Table

Table 1
 Selected Groundwater Analytical Results for IA1-MW-13B and IA1-MW-13C (µg/L)
 Former Elwood's Cleaners
 441 McHenry Avenue
 Modesto, California

Sample	Sample Date	Sample Type	PCE	TCE	cis 1,2-DCE	trans 1,2-DCE	VC	1,4-Dioxane
IA1-MW-13B 71'-82'6"	2/14/2013	Regular	8.7	< 0.5	< 0.5	< 0.5	< 0.5	NA
IA1-MW-13B 76'3"-77'9"	2/14/2013	Regular	11	< 0.5	< 0.5	< 0.5	< 0.5	NA
IA1-MW-13B 76'3"-77'9"	2/14/2013	Duplicate	15	< 0.5	< 0.5	< 0.5	< 1.0	NA
IA1-MW-13B 79'6"-81'	2/14/2013	Regular	5.8	< 0.5	< 0.5	< 0.5	< 0.5	NA
IA1-MW-13B	5/7/2013	Regular	16	< 0.5	< 0.5	< 0.5	< 0.5	NA
	8/21/2013	Regular	12	< 0.5	< 0.5	< 0.5	< 0.5	NA
	11/5/2013	Regular	13	< 0.5	< 0.5	< 0.5	< 0.5	NA
	4/11/2014	Regular	17	< 0.5	< 0.5	< 0.5	< 0.5	NA
	4/11/2014	Replicate	17	< 0.5	< 0.5	< 0.5	< 0.5	NA
	7/8/2014	Regular	12	< 0.5	< 0.5	< 0.5	< 0.5	NA
	7/8/2014	Replicate	11	< 0.5	< 0.5	< 0.5	< 0.5	NA
	11/19/2014	Regular	17	< 0.5	< 0.5	< 0.5	< 0.5	1.1
11/19/2014	Replicate	16	< 0.5	< 0.5	< 0.5	< 0.5	1.6	
IA1-MW-13C 101'-102.5'	2/14/2013	Regular	7.7	< 0.5	< 0.5	< 0.5	< 0.5	NA
IA1-MW-13C 104'3"-105'9"	2/14/2013	Regular	11	< 0.5	< 0.5	< 0.5	< 0.5	NA
IA1-MW-13C 107'6"-109'	2/14/2013	Regular	6.2	< 0.5	< 0.5	< 0.5	< 0.5	NA
IA1-MW-13C	5/7/2013	Regular	17	< 0.5	< 0.5	< 0.5	< 0.5	NA
	8/21/2013	Regular	15	< 0.5	< 0.5	< 0.5	< 0.5	NA
	11/5/2013	Regular	14	< 0.5	< 0.5	< 0.5	< 0.5	NA
	4/11/2014	Regular	16	< 0.5	< 0.5	< 0.5	< 0.5	NA
	4/11/2014	Duplicate	15	< 0.5	< 0.5	< 0.5	< 1.0	NA
	7/8/2014	Regular	16	< 0.5	< 0.5	< 0.5	< 0.5	NA
	7/8/2014	Duplicate	17	< 0.5	< 0.5	< 0.5	< 1.0	< 20
	11/19/2014	Regular	18	< 0.5	< 0.5	< 0.5	< 0.5	1.9
11/19/2014	Duplicate	25	< 0.5	< 0.5	< 0.5	< 1.0	< 10	

PCE = Tetrachloroethylene
 TCE = Trichloroethylene
 DCE = Dichloroethylene
 VC = Vinyl Chloride
 µg/L = micrograms per liter
 NA = Not Analyzed

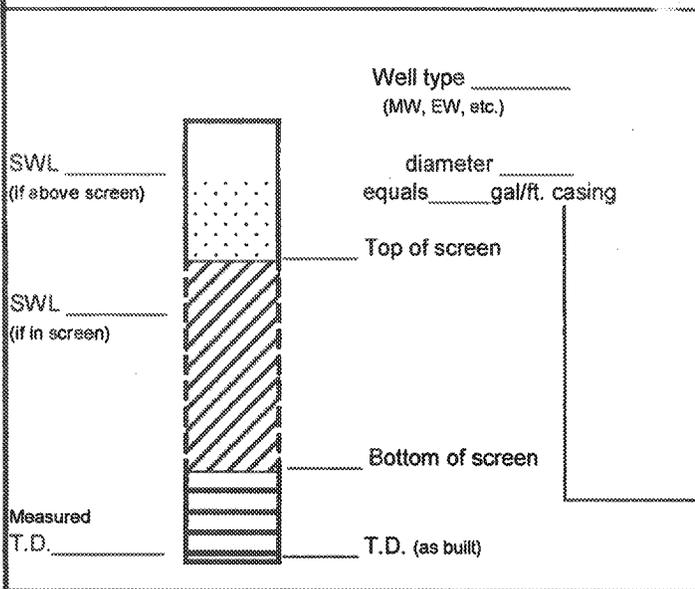
Attachment A
Field Sampling Sheets



WELL SAMPLING RECORD

Project Name/Client Elwood's 4th Quarter 2014 Sample Location IA-1-MW-132 Date 11/19/2014

Project Number 117-1064059.01 Samplers Bill Schmierer and Garrett Kuhl



Action	Time	Pump rate (gpm)	Water level
Start pump	10:48		56.05
Start	10:51	1.5 GPM	
Stop	11:22		
Sampled	11:19	1.5 GPM	56.15
Final water level	11:22		56.00
Purge Calculation			
_____ gal/ft * _____ ft. = _____ x3= _____ gals.			
T.D. -SWL one vol.			Purge vol. (3 casings)

Purging apparatus / Sampling apparatus / Method
Grundfos Rediflo II w/ Disposable Tubing
Horiba US1 w/ Flow through
Pump set at middle of screen, same as passive bag.
Controller at 185 Hz to start
200 ML for 10 sec 1.5

Actual gallons purged	<u>12 gal</u>
Actual Volumes purged	_____
COC # _____	
Sample I.D.	Analysis Lab
_____	_____
_____	_____
_____	_____

Field observations / additional comments
VOC's sampled from Passive D. Area Bags
1,4 Dioxane Sample Collected from Grundfos

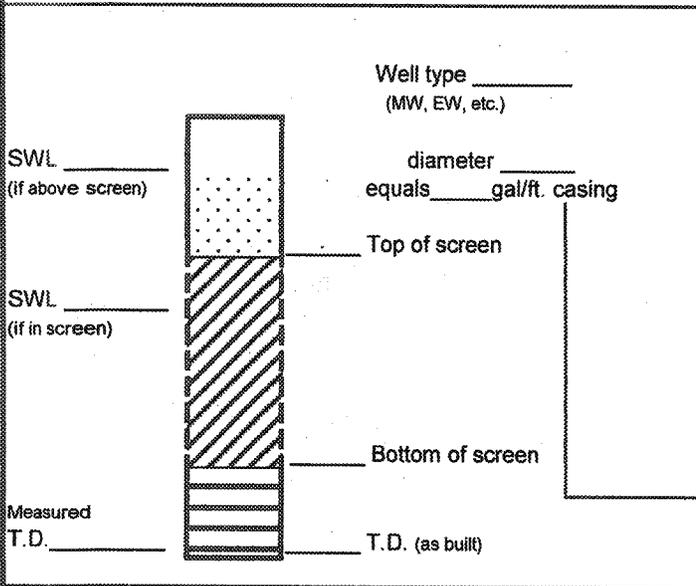
Time	TEMP (°C)	EC (us/cm) / (ms/cm)	ORP (mv)	pH	TDS (g/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Water Level
1 1056	22.05	1.43	104	5.85	0.910	571	5.85	56.15
2 1101	22.39	1.39	111	5.96	0.891	147	5.99	56.15
3 1106	22.39	1.40	119	6.01	0.893	67.7	6.00	56.15
4 1111	22.13	1.40	121	6.05	0.897	42.2	5.98	56.15
5 1116	22.18	1.39	124	6.06	0.888	42.5	5.93	56.15
6								
7								
8								



WELL SAMPLING RECORD

Project Name/Client Elwood's 4th Quarter 2014 Sample Location IA-1-MW-13C Date 11/19/2014

Project Number 117-1064059.01 Samplers Bill Schmierer and Garrett Kuhl



Action	Time	Pump rate (gpm)	Water level
Start pump	1137		55.80
Start	1141		56.37
Stop			
Sampled	1208		56.37
Final water level	1211		55.78

Purge Calculation

_____ gal/ft * _____ ft. = _____ x3= _____ gals.

T.D. -SWL one vol. Purge vol. (3 casings)

Purging apparatus / Sampling apparatus / Method
Grundfos Rediflo 2 w/ Disposable Tubing
Horniba U51 w/ flow through pump
500 cc at middle of screen, same as possible bag

Controller at 191 Hz
 250 mL for 10 sec 1.5 LPM

Actual gallons purged 12 gal

Actual Volumes purged _____

COC # _____

Sample I.D.	Analysis	Lab

Field observations / additional comments
VOCs samples from passive diffusion

Time	TEMP (°C)	EC (us/cm) / (ms/cm)	ORP (mv)	pH	TDS (g/L)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Water Level
1 1146	21.77	1.32	96	6.35	0.846	5.8	5.84	56.40
2 1151	21.97	1.31	100	6.34	0.841	6.6	5.43	56.40
3 1156	22.02	1.30	112	6.34	0.833	22.1	5.30	56.37
4 1201	22.16	1.30	118	6.35	0.830	11.3	5.26	56.37
5 1206	22.19	1.31	121	6.36	0.829	8.3	5.29	56.37
6								
7								
8								

Attachment B
Laboratory Data Sheets

CALIFORNIA LABORATORY SERVICES

3249 Fitzgerald Road Rancho Cordova, CA 95742

November 26, 2014

CLS Work Order #: CXK0903
COC #: 88444

Steve Carlton
Tetra Tech Geo
2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670

Project Name: Elwoods 4th Quarter 2014

Enclosed are the results of analyses for samples received by the laboratory on 11/19/14 16:50. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that the results are in compliance both technically and for completeness.

Analytical results are attached to this letter. Please call if we can provide additional assistance.

Sincerely,



James Liang, Ph.D.
Laboratory Director

CA DOHS ELAP Accreditation/Registration number 1233

CALIFORNIA LABORATORY SERVICES

Tetra Tech Geo 2969 Prospect Park Drive, Suite 200 Rancho Cordova, CA 95670	Project: Elwoods 4th Quarter 2014 Project Number: 117-1064059.01 Project Manager: Steve Carlton	CLS Work Order #: CXK0903 COC #: 88444
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CLS - Labs		CHAIN OF CUSTODY		CLS ID No. <i>CXK0903</i>		LOG NO. 88444	
REPORT TO: Steve Carlton Tetra Tech 2969 Prospect Park Dr. No Rancho Cordova CA 95670 PROJECT NUMBER: 117-1064059.01 PROJECT NAME: Elwoods 4th Qtr 2014 SAMPLED BY: Bill Sharver DESCRIPTION:		CLIENT JOB NUMBER: 117-1064059.01 DESTINATION LABORATORY: CLS (916) 638-7301 2248 FITZGERALD RD. RANCHO CORDOVA, CA 95742		ANALYSIS REQUESTED		GEOTRACKER: EDF REPORT <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO GLOBAL ID: 6020008	
SITE LOCATION:		OTHER:		PRESERVATIVES: 14-Dioxane (270) Vols (2260)		COMPOSITE:	
DATE TIME SAMPLE IDENTIFICATION MATRIX CONTAINER NO. TYPE		TURN AROUND TIME		SPECIAL INSTRUCTIONS			
11/14	12:08	IPI-MW-13C-DIP	H ₂ O	2	1LAV 3+		
11/14	10:12	IPI-MW-13C-DIP	H ₂ O	3	1LAV 1	X	
11/14	00:00	TRIP Blank	H ₂ O	2	1LAV 1	X	
RECEIVED BY (SIGN): <i>[Signature]</i>		PRINT NAME / COMPANY: Bill Sharver Tetra Tech		DATE / TIME: 11/19/14 16:50		RECEIVED BY (SIGN):	
RECEIVED BY (SIGN): <i>[Signature]</i>		PRINT NAME / COMPANY:		DATE / TIME:		RECEIVED BY (SIGN):	
SHIPPED BY: <i>[Signature]</i>		DATE / TIME: 11/19/14 1650 (27)		CONDITIONS / COMMENTS:			
SHIPPED BY:		<input type="checkbox"/> UPS <input type="checkbox"/> OTHER		AIR BILL #:			

CALIFORNIA LABORATORY SERVICES

Tetra Tech Geo
2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670

Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Semivolatile Organic Compounds by EPA Method 8270C

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
IA1-MW-13C-DUP (CXK0903-01) Water Sampled: 11/19/14 12:08 Received: 11/19/14 16:50									
1,4-Dioxane	ND	10	µg/L	1	CX08370	11/21/14	11/25/14	EPA 8270C	
Surrogate: Nitrobenzene-d5		88 %		35-114	"	"	"	"	

CALIFORNIA LABORATORY SERVICES

Tetra Tech Geo
2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670

Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
IA1-MW-13C-DUP (CXK0903-01) Water Sampled: 11/19/14 12:08 Received: 11/19/14 16:50									
Acetone	ND	10	µg/L	1	CX08387	11/21/14	11/21/14	EPA 8260B	
Benzene	ND	0.50	"	"	"	"	"	"	
Bromobenzene	ND	0.50	"	"	"	"	"	"	
Bromochloromethane	ND	0.50	"	"	"	"	"	"	
Bromodichloromethane	ND	0.50	"	"	"	"	"	"	
Bromoform	ND	0.50	"	"	"	"	"	"	
Bromomethane	ND	1.0	"	"	"	"	"	"	
2-Butanone	ND	10	"	"	"	"	"	"	
n-Butylbenzene	ND	0.50	"	"	"	"	"	"	
sec-Butylbenzene	ND	0.50	"	"	"	"	"	"	
tert-Butylbenzene	ND	0.50	"	"	"	"	"	"	
Carbon tetrachloride	ND	0.50	"	"	"	"	"	"	
Chlorobenzene	ND	0.50	"	"	"	"	"	"	
Chloroethane	ND	0.50	"	"	"	"	"	"	
Chloroform	0.62	0.50	"	"	"	"	"	"	
Chloromethane	ND	1.0	"	"	"	"	"	"	
o-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
p-Chlorotoluene	ND	0.50	"	"	"	"	"	"	
Dibromochloromethane	ND	0.50	"	"	"	"	"	"	
1,2-Dibromo-3-chloropropane	ND	1.0	"	"	"	"	"	"	
1,2-Dibromoethane (EDB)	ND	0.50	"	"	"	"	"	"	
Dibromomethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	

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11/26/14 08:54

Tetra Tech Geo
2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670

Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
IA1-MW-13C-DUP (CXK0903-01) Water Sampled: 11/19/14 12:08 Received: 11/19/14 16:50									
1,2-Dichloropropane	ND	0.50	µg/L	1	CX08387	"	11/21/14	EPA 8260B	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	
2-Hexanone	ND	10	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Naphthalene	ND	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	25	0.50	"	"	"	"	"	"	
Toluene	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	

CA DOHS ELAP Accreditation/Registration Number 1233

CALIFORNIA LABORATORY SERVICES

Tetra Tech Geo
2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670

Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Trip Blank (CXK0903-02) Water Sampled: 11/19/14 00:00 Received: 11/19/14 16:50									
1,2-Dichlorobenzene	ND	0.50	µg/L	1	CX08387	"	11/21/14	EPA 8260B	
1,3-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,4-Dichlorobenzene	ND	0.50	"	"	"	"	"	"	
Dichlorodifluoromethane (Freon 12)	ND	1.0	"	"	"	"	"	"	
1,1-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,2-Dichloroethane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloroethene	ND	0.50	"	"	"	"	"	"	
cis-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	
trans-1,2-Dichloroethene	ND	0.50	"	"	"	"	"	"	
1,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,3-Dichloropropane	ND	0.50	"	"	"	"	"	"	
2,2-Dichloropropane	ND	0.50	"	"	"	"	"	"	
1,1-Dichloropropene	ND	0.50	"	"	"	"	"	"	
cis-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
trans-1,3-Dichloropropene	ND	0.50	"	"	"	"	"	"	
Ethylbenzene	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"	"	"	"	"	"	
Hexachlorobutadiene	ND	0.50	"	"	"	"	"	"	
2-Hexanone	ND	10	"	"	"	"	"	"	
Isopropylbenzene	ND	0.50	"	"	"	"	"	"	
p-Isopropyltoluene	ND	0.50	"	"	"	"	"	"	
Methylene chloride	ND	0.50	"	"	"	"	"	"	
4-Methyl-2-pentanone	ND	10	"	"	"	"	"	"	
Methyl tert-butyl ether	ND	0.50	"	"	"	"	"	"	
Naphthalene	ND	0.50	"	"	"	"	"	"	
n-Propylbenzene	ND	0.50	"	"	"	"	"	"	
Styrene	ND	0.50	"	"	"	"	"	"	
1,1,1,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2,2-Tetrachloroethane	ND	0.50	"	"	"	"	"	"	
Tetrachloroethene	ND	0.50	"	"	"	"	"	"	

CALIFORNIA LABORATORY SERVICES

Tetra Tech Geo
 2969 Prospect Park Drive, Suite 100
 Rancho Cordova, CA 95670

Project: Elwoods 4th Quarter 2014
 Project Number: 117-1064059.01
 Project Manager: Steve Carlton

CLS Work Order #: CXK0903
 COC #: 88444

Volatile Organic Compounds by EPA Method 8260B

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
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Trip Blank (CXK0903-02) Water **Sampled: 11/19/14 00:00** **Received: 11/19/14 16:50**

Toluene	ND	0.50	µg/L	1	CX08387	"	11/21/14	EPA 8260B	
1,2,3-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,2,4-Trichlorobenzene	ND	0.50	"	"	"	"	"	"	
1,1,1-Trichloroethane	ND	0.50	"	"	"	"	"	"	
1,1,2-Trichloroethane	ND	0.50	"	"	"	"	"	"	
Trichloroethene	ND	0.50	"	"	"	"	"	"	
Trichlorofluoromethane	ND	0.50	"	"	"	"	"	"	
1,2,3-Trichloropropane	ND	0.50	"	"	"	"	"	"	
1,2,4-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
1,3,5-Trimethylbenzene	ND	0.50	"	"	"	"	"	"	
Vinyl chloride	ND	1.0	"	"	"	"	"	"	
Xylenes (total)	ND	1.0	"	"	"	"	"	"	

<i>Surrogate: 1,2-Dichloroethane-d4</i>		111 %		66-135	"	"	"	"	
<i>Surrogate: Toluene-d8</i>		91 %		72-125	"	"	"	"	
<i>Surrogate: 4-Bromofluorobenzene</i>		107 %		73-125	"	"	"	"	

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Tetra Tech Geo 2969 Prospect Park Drive, Suite 100 Rancho Cordova, CA 95670	Project: Elwoods 4th Quarter 2014 Project Number: 117-1064059.01 Project Manager: Steve Carlton	CLS Work Order #: CXK0903 COC #: 88444
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Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CX08370 - EPA 3510B GCMS

Blank (CX08370-BLK1)

Prepared: 11/21/14 Analyzed: 11/24/14

Acenaphthene	ND	10	µg/L							
Acenaphthylene	ND	10	"							
Anthracene	ND	10	"							
Benzo (a) anthracene	ND	10	"							
Benzo (b) fluoranthene	ND	10	"							
Benzo (k) fluoranthene	ND	10	"							
Benzo (g,h,i) perylene	ND	10	"							
Benzo (a) pyrene	ND	10	"							
Benzyl alcohol	ND	10	"							
Bis(2-chloroethyl)ether	ND	10	"							
Bis(2-chloroethoxy)methane	ND	10	"							
Bis(2-chloroisopropyl)ether	ND	10	"							
Bis(2-ethylhexyl)phthalate	ND	10	"							
4-Bromophenyl phenyl ether	ND	10	"							
Butyl benzyl phthalate	ND	10	"							
4-Chloroaniline	ND	10	"							
2-Chloronaphthalene	ND	10	"							
4-Chlorophenyl phenyl ether	ND	10	"							
Chrysene	ND	10	"							
Dibenz (a,h) anthracene	ND	10	"							
Dibenzofuran	ND	10	"							
Di-n-butyl phthalate	ND	10	"							
1,2-Dichlorobenzene	ND	10	"							
1,3-Dichlorobenzene	ND	10	"							
1,4-Dichlorobenzene	ND	10	"							
3,3'-Dichlorobenzidine	ND	20	"							
Diethyl phthalate	ND	10	"							
Dimethyl phthalate	ND	10	"							
2,4-Dinitrotoluene (2,4-DNT)	ND	10	"							
2,6-Dinitrotoluene (2,6-DNT)	ND	10	"							
Di-n-octyl phthalate	ND	10	"							

CALIFORNIA LABORATORY SERVICES

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Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC %REC	Limit	RPD	RPD Limit	Notes
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Batch CX08370 - EPA 3510B GCMS

Blank (CX08370-BLK1)

Prepared: 11/21/14 Analyzed: 11/24/14

Fluoranthene	ND	10	µg/L							
Fluorene	ND	10	"							
Hexachlorobenzene	ND	10	"							
Hexachlorobutadiene	ND	10	"							
Hexachlorocyclopentadiene	ND	10	"							
Hexachloroethane	ND	10	"							
Indeno (1,2,3-cd) pyrene	ND	10	"							
Isophorone	ND	10	"							
2-Methylnaphthalene	ND	10	"							
Naphthalene	ND	10	"							
2-Nitroaniline	ND	25	"							
3-Nitroaniline	ND	25	"							
4-Nitroaniline	ND	25	"							
Nitrobenzene (NB)	ND	10	"							
N-Nitrosodiphenylamine	ND	10	"							
N-Nitrosodi-n-propylamine	ND	10	"							
Phenanthrene	ND	10	"							
Pyrene	ND	10	"							
1,2,4-Trichlorobenzene	ND	10	"							
Benzoic acid	ND	25	"							
4-Chloro-3-methylphenol	ND	10	"							
2-Chlorophenol	ND	10	"							
2,4-Dichlorophenol	ND	10	"							
2,4-Dimethylphenol	ND	10	"							
4,6-Dinitro-2-methylphenol	ND	25	"							
2,4-Dinitrophenol	ND	25	"							
2-Methylphenol	ND	10	"							
3 & 4-Methylphenol	ND	10	"							
2-Nitrophenol	ND	10	"							
4-Nitrophenol	ND	25	"							
Pentachlorophenol	ND	25	"							

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Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CX08370 - EPA 3510B GCMS

Blank (CX08370-BLK1)

Prepared: 11/21/14 Analyzed: 11/24/14

Phenol	ND	10	µg/L							
2,4,5-Trichlorophenol	ND	10	"							
2,4,6-Trichlorophenol	ND	10	"							
Surrogate: 2-Fluorophenol	27.4		"	40.0		69	21-110			
Surrogate: Phenol-d6	20.6		"	40.0		52	10-110			
Surrogate: Nitrobenzene-d5	34.5		"	40.0		86	35-114			
Surrogate: 2-Fluorobiphenyl	31.6		"	40.0		79	43-116			
Surrogate: 2,4,6-Tribromophenol	39.0		"	40.0		98	10-123			
Surrogate: Terphenyl-d14	37.7		"	40.0		94	33-141			

LCS (CX08370-BS1)

Prepared: 11/21/14 Analyzed: 11/24/14

Acenaphthene	24.9	10	µg/L	30.0		83	46-118			
1,4-Dichlorobenzene	19.3	10	"	30.0		64	36-117			
2,4-Dinitrotoluene (2,4-DNT)	24.8	10	"	30.0		83	24-116			
N-Nitrosodi-n-propylamine	26.4	10	"	30.0		88	41-126			
Pyrene	19.2	10	"	30.0		64	26-127			
1,2,4-Trichlorobenzene	19.9	10	"	30.0		66	39-118			
4-Chloro-3-methylphenol	33.3	10	"	40.0		83	23-117			
2-Chlorophenol	33.1	10	"	40.0		83	23-134			
4-Nitrophenol	25.1	25	"	40.0		63	10-108			
Pentachlorophenol	35.3	25	"	40.0		88	10-113			
Phenol	20.6	10	"	40.0		51	5-112			
Surrogate: 2-Fluorophenol	29.5		"	40.0		74	21-110			
Surrogate: Phenol-d6	23.6		"	40.0		59	10-110			
Surrogate: Nitrobenzene-d5	36.8		"	40.0		92	35-114			
Surrogate: 2-Fluorobiphenyl	33.2		"	40.0		83	43-116			
Surrogate: 2,4,6-Tribromophenol	43.5		"	40.0		109	10-123			
Surrogate: Terphenyl-d14	40.6		"	40.0		101	33-141			

CALIFORNIA LABORATORY SERVICES

Tetra Tech Geo
2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670

Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Semivolatile Organic Compounds by EPA Method 8270C - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CX08370 - EPA 3510B GCMS

LCS Dup (CX08370-BSD1)

Prepared: 11/21/14 Analyzed: 11/24/14

Acenaphthene	25.1	10	µg/L	30.0	84	46-118	1	31	
1,4-Dichlorobenzene	19.4	10	"	30.0	65	36-117	0.4	28	
2,4-Dinitrotoluene (2,4-DNT)	25.8	10	"	30.0	86	24-116	4	38	
N-Nitrosodi-n-propylamine	27.3	10	"	30.0	91	41-126	3	38	
Pyrene	19.8	10	"	30.0	66	26-127	3	31	
1,2,4-Trichlorobenzene	20.1	10	"	30.0	67	39-118	1	28	
4-Chloro-3-methylphenol	36.1	10	"	40.0	90	23-117	8	42	
2-Chlorophenol	34.5	10	"	40.0	86	23-134	4	40	
4-Nitrophenol	27.9	25	"	40.0	70	10-108	11	45	
Pentachlorophenol	37.4	25	"	40.0	94	10-113	6	45	
Phenol	23.2	10	"	40.0	58	5-112	12	42	
<i>Surrogate: 2-Fluorophenol</i>	30.5		"	40.0	76	21-110			
<i>Surrogate: Phenol-d6</i>	25.2		"	40.0	63	10-110			
<i>Surrogate: Nitrobenzene-d5</i>	36.4		"	40.0	91	35-114			
<i>Surrogate: 2-Fluorobiphenyl</i>	32.9		"	40.0	82	43-116			
<i>Surrogate: 2,4,6-Tribromophenol</i>	42.5		"	40.0	106	10-123			
<i>Surrogate: Terphenyl-d14</i>	39.9		"	40.0	100	33-141			

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Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CX08387 - EPA 5030 Water MS

Blank (CX08387-BLK1)

Prepared & Analyzed: 11/21/14

Acetone	ND	10	µg/L							
Benzene	ND	0.50	"							
Bromobenzene	ND	0.50	"							
Bromochloromethane	ND	0.50	"							
Bromodichloromethane	ND	0.50	"							
Bromoform	ND	0.50	"							
Bromomethane	ND	1.0	"							
2-Butanone	ND	10	"							
n-Butylbenzene	ND	0.50	"							
sec-Butylbenzene	ND	0.50	"							
tert-Butylbenzene	ND	0.50	"							
Carbon tetrachloride	ND	0.50	"							
Chlorobenzene	ND	0.50	"							
Chloroethane	ND	0.50	"							
Chloroform	ND	0.50	"							
Chloromethane	ND	1.0	"							
o-Chlorotoluene	ND	0.50	"							
p-Chlorotoluene	ND	0.50	"							
Dibromochloromethane	ND	0.50	"							
1,2-Dibromo-3-chloropropane	ND	1.0	"							
1,2-Dibromoethane (EDB)	ND	0.50	"							
Dibromomethane	ND	0.50	"							
1,2-Dichlorobenzene	ND	0.50	"							
1,3-Dichlorobenzene	ND	0.50	"							
1,4-Dichlorobenzene	ND	0.50	"							
Dichlorodifluoromethane (Freon 12)	ND	1.0	"							
1,1-Dichloroethane	ND	0.50	"							
1,2-Dichloroethane	ND	0.50	"							
1,1-Dichloroethene	ND	0.50	"							
cis-1,2-Dichloroethene	ND	0.50	"							
trans-1,2-Dichloroethene	ND	0.50	"							

CALIFORNIA LABORATORY SERVICES

Tetra Tech Geo 2969 Prospect Park Drive, Suite 100 Rancho Cordova, CA 95670	Project: Elwoods 4th Quarter 2014 Project Number: 117-1064059.01 Project Manager: Steve Carlton	CLS Work Order #: CXK0903 COC #: 88444
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Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CX08387 - EPA 5030 Water MS

Blank (CX08387-BLK1)

Prepared & Analyzed: 11/21/14

1,2-Dichloropropane	ND	0.50	µg/L							
1,3-Dichloropropane	ND	0.50	"							
2,2-Dichloropropane	ND	0.50	"							
1,1-Dichloropropene	ND	0.50	"							
cis-1,3-Dichloropropene	ND	0.50	"							
trans-1,3-Dichloropropene	ND	0.50	"							
Ethylbenzene	ND	0.50	"							
1,1,2-Trichloro-1,2,2-trifluoroethane (Freon 113)	ND	0.50	"							
Hexachlorobutadiene	ND	0.50	"							
2-Hexanone	ND	10	"							
Isopropylbenzene	ND	0.50	"							
p-Isopropyltoluene	ND	0.50	"							
Methylene chloride	ND	0.50	"							
4-Methyl-2-pentanone	ND	10	"							
Methyl tert-butyl ether	ND	0.50	"							
Naphthalene	ND	0.50	"							
n-Propylbenzene	ND	0.50	"							
Styrene	ND	0.50	"							
1,1,1,2-Tetrachloroethane	ND	0.50	"							
1,1,2,2-Tetrachloroethane	ND	0.50	"							
Tetrachloroethene	ND	0.50	"							
Toluene	ND	0.50	"							
1,2,3-Trichlorobenzene	ND	0.50	"							
1,2,4-Trichlorobenzene	ND	0.50	"							
1,1,1-Trichloroethane	ND	0.50	"							
1,1,2-Trichloroethane	ND	0.50	"							
Trichloroethene	ND	0.50	"							
Trichlorofluoromethane	ND	0.50	"							
1,2,3-Trichloropropane	ND	0.50	"							
1,2,4-Trimethylbenzene	ND	0.50	"							

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Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CX08387 - EPA 5030 Water MS

Blank (CX08387-BLK1)

Prepared & Analyzed: 11/21/14

1,3,5-Trimethylbenzene	ND	0.50	µg/L							
Vinyl chloride	ND	1.0	"							
Xylenes (total)	ND	1.0	"							
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>11.1</i>		<i>"</i>	<i>10.0</i>		<i>111</i>	<i>66-135</i>			
<i>Surrogate: Toluene-d8</i>	<i>8.94</i>		<i>"</i>	<i>10.0</i>		<i>89</i>	<i>72-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>10.4</i>		<i>"</i>	<i>10.0</i>		<i>104</i>	<i>73-125</i>			

LCS (CX08387-BS1)

Prepared & Analyzed: 11/21/14

Benzene	21.0	0.50	µg/L	20.0		105	60-135			
Chlorobenzene	19.3	0.50	"	20.0		97	60-133			
1,1-Dichloroethene	17.8	0.50	"	20.0		89	42-150			
Toluene	21.9	0.50	"	20.0		110	60-137			
Trichloroethene	20.0	0.50	"	20.0		100	62-140			
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>9.14</i>		<i>"</i>	<i>10.0</i>		<i>91</i>	<i>66-135</i>			
<i>Surrogate: Toluene-d8</i>	<i>10.8</i>		<i>"</i>	<i>10.0</i>		<i>108</i>	<i>72-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>10.3</i>		<i>"</i>	<i>10.0</i>		<i>103</i>	<i>73-125</i>			

LCS Dup (CX08387-BSD1)

Prepared & Analyzed: 11/21/14

Benzene	21.4	0.50	µg/L	20.0		107	60-135	2	25	
Chlorobenzene	20.5	0.50	"	20.0		103	60-133	6	25	
1,1-Dichloroethene	18.5	0.50	"	20.0		93	42-150	4	25	
Toluene	22.3	0.50	"	20.0		112	60-137	2	25	
Trichloroethene	20.8	0.50	"	20.0		104	62-140	4	25	
<i>Surrogate: 1,2-Dichloroethane-d4</i>	<i>9.06</i>		<i>"</i>	<i>10.0</i>		<i>91</i>	<i>66-135</i>			
<i>Surrogate: Toluene-d8</i>	<i>10.6</i>		<i>"</i>	<i>10.0</i>		<i>106</i>	<i>72-125</i>			
<i>Surrogate: 4-Bromofluorobenzene</i>	<i>10.2</i>		<i>"</i>	<i>10.0</i>		<i>102</i>	<i>73-125</i>			

Matrix Spike (CX08387-MS1)

Source: CXK0960-01

Prepared & Analyzed: 11/21/14

Benzene	22.6	0.50	µg/L	20.0	ND	113	52-139			
Chlorobenzene	20.5	0.50	"	20.0	ND	102	62-134			
1,1-Dichloroethene	17.8	0.50	"	20.0	ND	89	32-152			
Toluene	23.9	0.50	"	20.0	ND	119	58-139			

CALIFORNIA LABORATORY SERVICES

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Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Volatile Organic Compounds by EPA Method 8260B - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
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Batch CX08387 - EPA 5030 Water MS

Matrix Spike (CX08387-MS1)

Source: CXK0960-01

Prepared & Analyzed: 11/21/14

Trichloroethene	20.8	0.50	µg/L	20.0	ND	104	55-138			
Surrogate: 1,2-Dichloroethane-d4	10.7		"	10.0		107	66-135			
Surrogate: Toluene-d8	11.8		"	10.0		118	72-125			
Surrogate: 4-Bromofluorobenzene	9.65		"	10.0		96	73-125			

Matrix Spike Dup (CX08387-MSD1)

Source: CXK0960-01

Prepared & Analyzed: 11/21/14

Benzene	20.3	0.50	µg/L	20.0	ND	101	52-139	11	25	
Chlorobenzene	19.1	0.50	"	20.0	ND	95	62-134	7	25	
1,1-Dichloroethene	16.8	0.50	"	20.0	ND	84	32-152	6	25	
Toluene	21.2	0.50	"	20.0	ND	106	58-139	12	25	
Trichloroethene	18.9	0.50	"	20.0	ND	94	55-138	10	25	
Surrogate: 1,2-Dichloroethane-d4	9.66		"	10.0		97	66-135			
Surrogate: Toluene-d8	10.7		"	10.0		107	72-125			
Surrogate: 4-Bromofluorobenzene	9.76		"	10.0		98	73-125			

CALIFORNIA LABORATORY SERVICES

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Tetra Tech Geo
2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670

Project: Elwoods 4th Quarter 2014
Project Number: 117-1064059.01
Project Manager: Steve Carlton

CLS Work Order #: CXK0903
COC #: 88444

Notes and Definitions

DET Analyte DETECTED
ND Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR Not Reported
dry Sample results reported on a dry weight basis
RPD Relative Percent Difference

CA DOHS ELAP Accreditation/Registration Number 1233

3249 Fitzgerald Road Rancho Cordova, CA 95742

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TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.

TestAmerica Pleasanton

1220 Quarry Lane

Pleasanton, CA 94566

Tel: (925)484-1919

TestAmerica Job ID: 720-61395-1

Client Project/Site: Elwood's Quarter 4 2014

For:

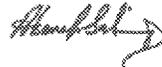
Tetra Tech GEO

2969 Prospect park Drive

Suite 100

Rancho Cordova, California 95670

Attn: Mr. Steve Carlton



Authorized for release by:

12/2/2014 3:52:29 PM

Afsaneh Salimpour, Senior Project Manager

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Results relate only to the items tested and the sample(s) as received by the laboratory.

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Definitions/Glossary

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Qualifiers

GC/MS Semi VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains no Free Liquid
DER	Duplicate error ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision level concentration
MDA	Minimum detectable activity
EDL	Estimated Detection Limit
MDC	Minimum detectable concentration
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative error ratio
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Case Narrative

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Job ID: 720-61395-1

Laboratory: TestAmerica Pleasanton

Narrative

Job Narrative
720-61395-1

Comments

No additional comments.

Receipt

The samples were received on 11/20/2014 4:50 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 3.1° C.

GC/MS VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

GC/MS Semi VOA

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 720-61395-1

No Detections.

Client Sample ID: IA1-MW-13B

Lab Sample ID: 720-61395-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	17		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: IA1-MW-13C

Lab Sample ID: 720-61395-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	18		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: IA1-MW-13B-REP

Lab Sample ID: 720-61395-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Tetrachloroethene	16		0.50		ug/L	1		8260B	Total/NA

Client Sample ID: IA1-MW-13B

Lab Sample ID: 720-61395-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.1		1.0		ug/L	1		8270C	Total/NA

Client Sample ID: IA1-MW-13B-REP

Lab Sample ID: 720-61395-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.6		1.1		ug/L	1		8270C	Total/NA

Client Sample ID: IA1-MW-13C

Lab Sample ID: 720-61395-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
1,4-Dioxane	1.9		1.1		ug/L	1		8270C	Total/NA

This Detection Summary does not include radiochemical test results.

TestAmerica Pleasanton

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 720-61395-1

Date Collected: 11/19/14 00:00

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			11/25/14 15:53	1
Acetone	ND		50		ug/L			11/25/14 15:53	1
Benzene	ND		0.50		ug/L			11/25/14 15:53	1
Dichlorobromomethane	ND		0.50		ug/L			11/25/14 15:53	1
Bromobenzene	ND		1.0		ug/L			11/25/14 15:53	1
Chlorobromomethane	ND		1.0		ug/L			11/25/14 15:53	1
Bromoform	ND		1.0		ug/L			11/25/14 15:53	1
Bromomethane	ND		1.0		ug/L			11/25/14 15:53	1
2-Butanone (MEK)	ND		50		ug/L			11/25/14 15:53	1
n-Butylbenzene	ND		1.0		ug/L			11/25/14 15:53	1
sec-Butylbenzene	ND		1.0		ug/L			11/25/14 15:53	1
tert-Butylbenzene	ND		1.0		ug/L			11/25/14 15:53	1
Carbon disulfide	ND		5.0		ug/L			11/25/14 15:53	1
Carbon tetrachloride	ND		0.50		ug/L			11/25/14 15:53	1
Chlorobenzene	ND		0.50		ug/L			11/25/14 15:53	1
Chloroethane	ND		1.0		ug/L			11/25/14 15:53	1
Chloroform	ND		1.0		ug/L			11/25/14 15:53	1
Chloromethane	ND		1.0		ug/L			11/25/14 15:53	1
2-Chlorotoluene	ND		0.50		ug/L			11/25/14 15:53	1
4-Chlorotoluene	ND		0.50		ug/L			11/25/14 15:53	1
Chlorodibromomethane	ND		0.50		ug/L			11/25/14 15:53	1
1,2-Dichlorobenzene	ND		0.50		ug/L			11/25/14 15:53	1
1,3-Dichlorobenzene	ND		0.50		ug/L			11/25/14 15:53	1
1,4-Dichlorobenzene	ND		0.50		ug/L			11/25/14 15:53	1
1,3-Dichloropropane	ND		1.0		ug/L			11/25/14 15:53	1
1,1-Dichloropropene	ND		0.50		ug/L			11/25/14 15:53	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			11/25/14 15:53	1
Ethylene Dibromide	ND		0.50		ug/L			11/25/14 15:53	1
Dibromomethane	ND		0.50		ug/L			11/25/14 15:53	1
Dichlorodifluoromethane	ND		0.50		ug/L			11/25/14 15:53	1
1,1-Dichloroethane	ND		0.50		ug/L			11/25/14 15:53	1
1,2-Dichloroethane	ND		0.50		ug/L			11/25/14 15:53	1
1,1-Dichloroethene	ND		0.50		ug/L			11/25/14 15:53	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 15:53	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 15:53	1
1,2-Dichloropropane	ND		0.50		ug/L			11/25/14 15:53	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 15:53	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 15:53	1
Ethylbenzene	ND		0.50		ug/L			11/25/14 15:53	1
Hexachlorobutadiene	ND		1.0		ug/L			11/25/14 15:53	1
2-Hexanone	ND		50		ug/L			11/25/14 15:53	1
Isopropylbenzene	ND		0.50		ug/L			11/25/14 15:53	1
4-Isopropyltoluene	ND		1.0		ug/L			11/25/14 15:53	1
Methylene Chloride	ND		5.0		ug/L			11/25/14 15:53	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			11/25/14 15:53	1
Naphthalene	ND		1.0		ug/L			11/25/14 15:53	1
N-Propylbenzene	ND		1.0		ug/L			11/25/14 15:53	1
Styrene	ND		0.50		ug/L			11/25/14 15:53	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 15:53	1

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Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 720-61395-1

Date Collected: 11/19/14 00:00

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 15:53	1
Tetrachloroethene	ND		0.50		ug/L			11/25/14 15:53	1
Toluene	ND		0.50		ug/L			11/25/14 15:53	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			11/25/14 15:53	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			11/25/14 15:53	1
1,1,1-Trichloroethane	ND		0.50		ug/L			11/25/14 15:53	1
1,1,2-Trichloroethane	ND		0.50		ug/L			11/25/14 15:53	1
Trichloroethene	ND		0.50		ug/L			11/25/14 15:53	1
Trichlorofluoromethane	ND		1.0		ug/L			11/25/14 15:53	1
1,2,3-Trichloropropane	ND		0.50		ug/L			11/25/14 15:53	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			11/25/14 15:53	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			11/25/14 15:53	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			11/25/14 15:53	1
Vinyl acetate	ND		10		ug/L			11/25/14 15:53	1
Vinyl chloride	ND		0.50		ug/L			11/25/14 15:53	1
Xylenes, Total	ND		1.0		ug/L			11/25/14 15:53	1
2,2-Dichloropropane	ND		0.50		ug/L			11/25/14 15:53	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		67 - 130					11/25/14 15:53	1
1,2-Dichloroethane-d4 (Surr)	96		72 - 130					11/25/14 15:53	1
Toluene-d8 (Surr)	93		70 - 130					11/25/14 15:53	1

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13B

Lab Sample ID: 720-61395-2

Date Collected: 11/19/14 10:00

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			11/25/14 16:26	1
Acetone	ND		50		ug/L			11/25/14 16:26	1
Benzene	ND		0.50		ug/L			11/25/14 16:26	1
Dichlorobromomethane	ND		0.50		ug/L			11/25/14 16:26	1
Bromobenzene	ND		1.0		ug/L			11/25/14 16:26	1
Chlorobromomethane	ND		1.0		ug/L			11/25/14 16:26	1
Bromoform	ND		1.0		ug/L			11/25/14 16:26	1
Bromomethane	ND		1.0		ug/L			11/25/14 16:26	1
2-Butanone (MEK)	ND		50		ug/L			11/25/14 16:26	1
n-Butylbenzene	ND		1.0		ug/L			11/25/14 16:26	1
sec-Butylbenzene	ND		1.0		ug/L			11/25/14 16:26	1
tert-Butylbenzene	ND		1.0		ug/L			11/25/14 16:26	1
Carbon disulfide	ND		5.0		ug/L			11/25/14 16:26	1
Carbon tetrachloride	ND		0.50		ug/L			11/25/14 16:26	1
Chlorobenzene	ND		0.50		ug/L			11/25/14 16:26	1
Chloroethane	ND		1.0		ug/L			11/25/14 16:26	1
Chloroform	ND		1.0		ug/L			11/25/14 16:26	1
Chloromethane	ND		1.0		ug/L			11/25/14 16:26	1
2-Chlorotoluene	ND		0.50		ug/L			11/25/14 16:26	1
4-Chlorotoluene	ND		0.50		ug/L			11/25/14 16:26	1
Chlorodibromomethane	ND		0.50		ug/L			11/25/14 16:26	1
1,2-Dichlorobenzene	ND		0.50		ug/L			11/25/14 16:26	1
1,3-Dichlorobenzene	ND		0.50		ug/L			11/25/14 16:26	1
1,4-Dichlorobenzene	ND		0.50		ug/L			11/25/14 16:26	1
1,3-Dichloropropane	ND		1.0		ug/L			11/25/14 16:26	1
1,1-Dichloropropene	ND		0.50		ug/L			11/25/14 16:26	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			11/25/14 16:26	1
Ethylene Dibromide	ND		0.50		ug/L			11/25/14 16:26	1
Dibromomethane	ND		0.50		ug/L			11/25/14 16:26	1
Dichlorodifluoromethane	ND		0.50		ug/L			11/25/14 16:26	1
1,1-Dichloroethane	ND		0.50		ug/L			11/25/14 16:26	1
1,2-Dichloroethane	ND		0.50		ug/L			11/25/14 16:26	1
1,1-Dichloroethene	ND		0.50		ug/L			11/25/14 16:26	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 16:26	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 16:26	1
1,2-Dichloropropane	ND		0.50		ug/L			11/25/14 16:26	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 16:26	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 16:26	1
Ethylbenzene	ND		0.50		ug/L			11/25/14 16:26	1
Hexachlorobutadiene	ND		1.0		ug/L			11/25/14 16:26	1
2-Hexanone	ND		50		ug/L			11/25/14 16:26	1
Isopropylbenzene	ND		0.50		ug/L			11/25/14 16:26	1
4-Isopropyltoluene	ND		1.0		ug/L			11/25/14 16:26	1
Methylene Chloride	ND		5.0		ug/L			11/25/14 16:26	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			11/25/14 16:26	1
Naphthalene	ND		1.0		ug/L			11/25/14 16:26	1
N-Propylbenzene	ND		1.0		ug/L			11/25/14 16:26	1
Styrene	ND		0.50		ug/L			11/25/14 16:26	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 16:26	1

TestAmerica Pleasanton

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13B

Lab Sample ID: 720-61395-2

Date Collected: 11/19/14 10:00

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 16:26	1
Tetrachloroethene	17		0.50		ug/L			11/25/14 16:26	1
Toluene	ND		0.50		ug/L			11/25/14 16:26	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			11/25/14 16:26	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			11/25/14 16:26	1
1,1,1-Trichloroethane	ND		0.50		ug/L			11/25/14 16:26	1
1,1,2-Trichloroethane	ND		0.50		ug/L			11/25/14 16:26	1
Trichloroethene	ND		0.50		ug/L			11/25/14 16:26	1
Trichlorofluoromethane	ND		1.0		ug/L			11/25/14 16:26	1
1,2,3-Trichloropropane	ND		0.50		ug/L			11/25/14 16:26	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			11/25/14 16:26	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			11/25/14 16:26	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			11/25/14 16:26	1
Vinyl acetate	ND		10		ug/L			11/25/14 16:26	1
Vinyl chloride	ND		0.50		ug/L			11/25/14 16:26	1
Xylenes, Total	ND		1.0		ug/L			11/25/14 16:26	1
2,2-Dichloropropane	ND		0.50		ug/L			11/25/14 16:26	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		67 - 130					11/25/14 16:26	1
1,2-Dichloroethane-d4 (Surr)	93		72 - 130					11/25/14 16:26	1
Toluene-d8 (Surr)	92		70 - 130					11/25/14 16:26	1

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13C

Lab Sample ID: 720-61395-3

Date Collected: 11/19/14 10:12

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			11/25/14 17:00	1
Acetone	ND		50		ug/L			11/25/14 17:00	1
Benzene	ND		0.50		ug/L			11/25/14 17:00	1
Dichlorobromomethane	ND		0.50		ug/L			11/25/14 17:00	1
Bromobenzene	ND		1.0		ug/L			11/25/14 17:00	1
Chlorobromomethane	ND		1.0		ug/L			11/25/14 17:00	1
Bromoform	ND		1.0		ug/L			11/25/14 17:00	1
Bromomethane	ND		1.0		ug/L			11/25/14 17:00	1
2-Butanone (MEK)	ND		50		ug/L			11/25/14 17:00	1
n-Butylbenzene	ND		1.0		ug/L			11/25/14 17:00	1
sec-Butylbenzene	ND		1.0		ug/L			11/25/14 17:00	1
tert-Butylbenzene	ND		1.0		ug/L			11/25/14 17:00	1
Carbon disulfide	ND		5.0		ug/L			11/25/14 17:00	1
Carbon tetrachloride	ND		0.50		ug/L			11/25/14 17:00	1
Chlorobenzene	ND		0.50		ug/L			11/25/14 17:00	1
Chloroethane	ND		1.0		ug/L			11/25/14 17:00	1
Chloroform	ND		1.0		ug/L			11/25/14 17:00	1
Chloromethane	ND		1.0		ug/L			11/25/14 17:00	1
2-Chlorotoluene	ND		0.50		ug/L			11/25/14 17:00	1
4-Chlorotoluene	ND		0.50		ug/L			11/25/14 17:00	1
Chlorodibromomethane	ND		0.50		ug/L			11/25/14 17:00	1
1,2-Dichlorobenzene	ND		0.50		ug/L			11/25/14 17:00	1
1,3-Dichlorobenzene	ND		0.50		ug/L			11/25/14 17:00	1
1,4-Dichlorobenzene	ND		0.50		ug/L			11/25/14 17:00	1
1,3-Dichloropropane	ND		1.0		ug/L			11/25/14 17:00	1
1,1-Dichloropropene	ND		0.50		ug/L			11/25/14 17:00	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			11/25/14 17:00	1
Ethylene Dibromide	ND		0.50		ug/L			11/25/14 17:00	1
Dibromomethane	ND		0.50		ug/L			11/25/14 17:00	1
Dichlorodifluoromethane	ND		0.50		ug/L			11/25/14 17:00	1
1,1-Dichloroethane	ND		0.50		ug/L			11/25/14 17:00	1
1,2-Dichloroethane	ND		0.50		ug/L			11/25/14 17:00	1
1,1-Dichloroethene	ND		0.50		ug/L			11/25/14 17:00	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 17:00	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 17:00	1
1,2-Dichloropropane	ND		0.50		ug/L			11/25/14 17:00	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 17:00	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 17:00	1
Ethylbenzene	ND		0.50		ug/L			11/25/14 17:00	1
Hexachlorobutadiene	ND		1.0		ug/L			11/25/14 17:00	1
2-Hexanone	ND		50		ug/L			11/25/14 17:00	1
Isopropylbenzene	ND		0.50		ug/L			11/25/14 17:00	1
4-Isopropyltoluene	ND		1.0		ug/L			11/25/14 17:00	1
Methylene Chloride	ND		5.0		ug/L			11/25/14 17:00	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			11/25/14 17:00	1
Naphthalene	ND		1.0		ug/L			11/25/14 17:00	1
N-Propylbenzene	ND		1.0		ug/L			11/25/14 17:00	1
Styrene	ND		0.50		ug/L			11/25/14 17:00	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 17:00	1

TestAmerica Pleasanton

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13C

Lab Sample ID: 720-61395-3

Date Collected: 11/19/14 10:12

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 17:00	1
Tetrachloroethene	18		0.50		ug/L			11/25/14 17:00	1
Toluene	ND		0.50		ug/L			11/25/14 17:00	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			11/25/14 17:00	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			11/25/14 17:00	1
1,1,1-Trichloroethane	ND		0.50		ug/L			11/25/14 17:00	1
1,1,2-Trichloroethane	ND		0.50		ug/L			11/25/14 17:00	1
Trichloroethene	ND		0.50		ug/L			11/25/14 17:00	1
Trichlorofluoromethane	ND		1.0		ug/L			11/25/14 17:00	1
1,2,3-Trichloropropane	ND		0.50		ug/L			11/25/14 17:00	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			11/25/14 17:00	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			11/25/14 17:00	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			11/25/14 17:00	1
Vinyl acetate	ND		10		ug/L			11/25/14 17:00	1
Vinyl chloride	ND		0.50		ug/L			11/25/14 17:00	1
Xylenes, Total	ND		1.0		ug/L			11/25/14 17:00	1
2,2-Dichloropropane	ND		0.50		ug/L			11/25/14 17:00	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		67 - 130					11/25/14 17:00	1
1,2-Dichloroethane-d4 (Surr)	96		72 - 130					11/25/14 17:00	1
Toluene-d8 (Surr)	90		70 - 130					11/25/14 17:00	1

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13B-REP

Lab Sample ID: 720-61395-4

Date Collected: 11/19/14 10:00

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			11/25/14 17:33	1
Acetone	ND		50		ug/L			11/25/14 17:33	1
Benzene	ND		0.50		ug/L			11/25/14 17:33	1
Dichlorobromomethane	ND		0.50		ug/L			11/25/14 17:33	1
Bromobenzene	ND		1.0		ug/L			11/25/14 17:33	1
Chlorobromomethane	ND		1.0		ug/L			11/25/14 17:33	1
Bromoform	ND		1.0		ug/L			11/25/14 17:33	1
Bromomethane	ND		1.0		ug/L			11/25/14 17:33	1
2-Butanone (MEK)	ND		50		ug/L			11/25/14 17:33	1
n-Butylbenzene	ND		1.0		ug/L			11/25/14 17:33	1
sec-Butylbenzene	ND		1.0		ug/L			11/25/14 17:33	1
tert-Butylbenzene	ND		1.0		ug/L			11/25/14 17:33	1
Carbon disulfide	ND		5.0		ug/L			11/25/14 17:33	1
Carbon tetrachloride	ND		0.50		ug/L			11/25/14 17:33	1
Chlorobenzene	ND		0.50		ug/L			11/25/14 17:33	1
Chloroethane	ND		1.0		ug/L			11/25/14 17:33	1
Chloroform	ND		1.0		ug/L			11/25/14 17:33	1
Chloromethane	ND		1.0		ug/L			11/25/14 17:33	1
2-Chlorotoluene	ND		0.50		ug/L			11/25/14 17:33	1
4-Chlorotoluene	ND		0.50		ug/L			11/25/14 17:33	1
Chlorodibromomethane	ND		0.50		ug/L			11/25/14 17:33	1
1,2-Dichlorobenzene	ND		0.50		ug/L			11/25/14 17:33	1
1,3-Dichlorobenzene	ND		0.50		ug/L			11/25/14 17:33	1
1,4-Dichlorobenzene	ND		0.50		ug/L			11/25/14 17:33	1
1,3-Dichloropropane	ND		1.0		ug/L			11/25/14 17:33	1
1,1-Dichloropropene	ND		0.50		ug/L			11/25/14 17:33	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			11/25/14 17:33	1
Ethylene Dibromide	ND		0.50		ug/L			11/25/14 17:33	1
Dibromomethane	ND		0.50		ug/L			11/25/14 17:33	1
Dichlorodifluoromethane	ND		0.50		ug/L			11/25/14 17:33	1
1,1-Dichloroethane	ND		0.50		ug/L			11/25/14 17:33	1
1,2-Dichloroethane	ND		0.50		ug/L			11/25/14 17:33	1
1,1-Dichloroethene	ND		0.50		ug/L			11/25/14 17:33	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 17:33	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 17:33	1
1,2-Dichloropropane	ND		0.50		ug/L			11/25/14 17:33	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 17:33	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 17:33	1
Ethylbenzene	ND		0.50		ug/L			11/25/14 17:33	1
Hexachlorobutadiene	ND		1.0		ug/L			11/25/14 17:33	1
2-Hexanone	ND		50		ug/L			11/25/14 17:33	1
Isopropylbenzene	ND		0.50		ug/L			11/25/14 17:33	1
4-Isopropyltoluene	ND		1.0		ug/L			11/25/14 17:33	1
Methylene Chloride	ND		5.0		ug/L			11/25/14 17:33	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			11/25/14 17:33	1
Naphthalene	ND		1.0		ug/L			11/25/14 17:33	1
N-Propylbenzene	ND		1.0		ug/L			11/25/14 17:33	1
Styrene	ND		0.50		ug/L			11/25/14 17:33	1
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 17:33	1

TestAmerica Pleasanton

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13B-REP

Lab Sample ID: 720-61395-4

Date Collected: 11/19/14 10:00

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 17:33	1
Tetrachloroethene	16		0.50		ug/L			11/25/14 17:33	1
Toluene	ND		0.50		ug/L			11/25/14 17:33	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			11/25/14 17:33	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			11/25/14 17:33	1
1,1,1-Trichloroethane	ND		0.50		ug/L			11/25/14 17:33	1
1,1,2-Trichloroethane	ND		0.50		ug/L			11/25/14 17:33	1
Trichloroethene	ND		0.50		ug/L			11/25/14 17:33	1
Trichlorofluoromethane	ND		1.0		ug/L			11/25/14 17:33	1
1,2,3-Trichloropropane	ND		0.50		ug/L			11/25/14 17:33	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			11/25/14 17:33	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			11/25/14 17:33	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			11/25/14 17:33	1
Vinyl acetate	ND		10		ug/L			11/25/14 17:33	1
Vinyl chloride	ND		0.50		ug/L			11/25/14 17:33	1
Xylenes, Total	ND		1.0		ug/L			11/25/14 17:33	1
2,2-Dichloropropane	ND		0.50		ug/L			11/25/14 17:33	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	86		67 - 130					11/25/14 17:33	1
1,2-Dichloroethane-d4 (Surr)	97		72 - 130					11/25/14 17:33	1
Toluene-d8 (Surr)	90		70 - 130					11/25/14 17:33	1

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13B

Lab Sample ID: 720-61395-5

Date Collected: 11/19/14 11:19

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.1		1.0		ug/L		11/24/14 15:51	11/30/14 20:22	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	39		30 - 120				11/24/14 15:51	11/30/14 20:22	1

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13B-REP

Lab Sample ID: 720-61395-6

Date Collected: 11/19/14 11:19

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.6		1.1		ug/L		11/25/14 13:19	11/30/14 20:43	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	50		30 - 120				11/25/14 13:19	11/30/14 20:43	1

Client Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13C

Lab Sample ID: 720-61395-7

Date Collected: 11/19/14 12:08

Matrix: Water

Date Received: 11/20/14 16:50

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,4-Dioxane	1.9		1.1		ug/L		11/25/14 13:19	11/30/14 21:05	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
1,4-Dioxane-d8 (Surr)	66		30 - 120				11/25/14 13:19	11/30/14 21:05	1

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 720-171563/25

Matrix: Water

Analysis Batch: 171563

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Methyl tert-butyl ether	ND		0.50		ug/L			11/25/14 15:20	1
Acetone	ND		50		ug/L			11/25/14 15:20	1
Benzene	ND		0.50		ug/L			11/25/14 15:20	1
Dichlorobromomethane	ND		0.50		ug/L			11/25/14 15:20	1
Bromobenzene	ND		1.0		ug/L			11/25/14 15:20	1
Chlorobromomethane	ND		1.0		ug/L			11/25/14 15:20	1
Bromoform	ND		1.0		ug/L			11/25/14 15:20	1
Bromomethane	ND		1.0		ug/L			11/25/14 15:20	1
2-Butanone (MEK)	ND		50		ug/L			11/25/14 15:20	1
n-Butylbenzene	ND		1.0		ug/L			11/25/14 15:20	1
sec-Butylbenzene	ND		1.0		ug/L			11/25/14 15:20	1
tert-Butylbenzene	ND		1.0		ug/L			11/25/14 15:20	1
Carbon disulfide	ND		5.0		ug/L			11/25/14 15:20	1
Carbon tetrachloride	ND		0.50		ug/L			11/25/14 15:20	1
Chlorobenzene	ND		0.50		ug/L			11/25/14 15:20	1
Chloroethane	ND		1.0		ug/L			11/25/14 15:20	1
Chloroform	ND		1.0		ug/L			11/25/14 15:20	1
Chloromethane	ND		1.0		ug/L			11/25/14 15:20	1
2-Chlorotoluene	ND		0.50		ug/L			11/25/14 15:20	1
4-Chlorotoluene	ND		0.50		ug/L			11/25/14 15:20	1
Chlorodibromomethane	ND		0.50		ug/L			11/25/14 15:20	1
1,2-Dichlorobenzene	ND		0.50		ug/L			11/25/14 15:20	1
1,3-Dichlorobenzene	ND		0.50		ug/L			11/25/14 15:20	1
1,4-Dichlorobenzene	ND		0.50		ug/L			11/25/14 15:20	1
1,3-Dichloropropane	ND		1.0		ug/L			11/25/14 15:20	1
1,1-Dichloropropene	ND		0.50		ug/L			11/25/14 15:20	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			11/25/14 15:20	1
Ethylene Dibromide	ND		0.50		ug/L			11/25/14 15:20	1
Dibromomethane	ND		0.50		ug/L			11/25/14 15:20	1
Dichlorodifluoromethane	ND		0.50		ug/L			11/25/14 15:20	1
1,1-Dichloroethane	ND		0.50		ug/L			11/25/14 15:20	1
1,2-Dichloroethane	ND		0.50		ug/L			11/25/14 15:20	1
1,1-Dichloroethene	ND		0.50		ug/L			11/25/14 15:20	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 15:20	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			11/25/14 15:20	1
1,2-Dichloropropane	ND		0.50		ug/L			11/25/14 15:20	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 15:20	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			11/25/14 15:20	1
Ethylbenzene	ND		0.50		ug/L			11/25/14 15:20	1
Hexachlorobutadiene	ND		1.0		ug/L			11/25/14 15:20	1
2-Hexanone	ND		50		ug/L			11/25/14 15:20	1
Isopropylbenzene	ND		0.50		ug/L			11/25/14 15:20	1
4-Isopropyltoluene	ND		1.0		ug/L			11/25/14 15:20	1
Methylene Chloride	ND		5.0		ug/L			11/25/14 15:20	1
4-Methyl-2-pentanone (MIBK)	ND		50		ug/L			11/25/14 15:20	1
Naphthalene	ND		1.0		ug/L			11/25/14 15:20	1
N-Propylbenzene	ND		1.0		ug/L			11/25/14 15:20	1
Styrene	ND		0.50		ug/L			11/25/14 15:20	1

TestAmerica Pleasanton

QC Sample Results

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 720-171563/25
Matrix: Water
Analysis Batch: 171563

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 15:20	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			11/25/14 15:20	1
Tetrachloroethene	ND		0.50		ug/L			11/25/14 15:20	1
Toluene	ND		0.50		ug/L			11/25/14 15:20	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			11/25/14 15:20	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			11/25/14 15:20	1
1,1,1-Trichloroethane	ND		0.50		ug/L			11/25/14 15:20	1
1,1,2-Trichloroethane	ND		0.50		ug/L			11/25/14 15:20	1
Trichloroethene	ND		0.50		ug/L			11/25/14 15:20	1
Trichlorofluoromethane	ND		1.0		ug/L			11/25/14 15:20	1
1,2,3-Trichloropropane	ND		0.50		ug/L			11/25/14 15:20	1
1,1,2-Trichloro-1,2,2-trifluoroethane	ND		0.50		ug/L			11/25/14 15:20	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			11/25/14 15:20	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			11/25/14 15:20	1
Vinyl acetate	ND		10		ug/L			11/25/14 15:20	1
Vinyl chloride	ND		0.50		ug/L			11/25/14 15:20	1
Xylenes, Total	ND		1.0		ug/L			11/25/14 15:20	1
2,2-Dichloropropane	ND		0.50		ug/L			11/25/14 15:20	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene	85		67 - 130		11/25/14 15:20	1
1,2-Dichloroethane-d4 (Surr)	94		72 - 130		11/25/14 15:20	1
Toluene-d8 (Surr)	95		70 - 130		11/25/14 15:20	1

Lab Sample ID: LCS 720-171563/7
Matrix: Water
Analysis Batch: 171563

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Methyl tert-butyl ether	25.0	24.4		ug/L		97	62 - 130
Acetone	125	119		ug/L		95	26 - 180
Benzene	25.0	26.2		ug/L		105	79 - 130
Dichlorobromomethane	25.0	28.1		ug/L		113	70 - 130
Bromobenzene	25.0	25.3		ug/L		101	70 - 130
Chlorobromomethane	25.0	24.2		ug/L		97	70 - 130
Bromoform	25.0	25.1		ug/L		101	68 - 136
Bromomethane	25.0	21.6		ug/L		86	43 - 151
2-Butanone (MEK)	125	121		ug/L		96	54 - 130
n-Butylbenzene	25.0	26.3		ug/L		105	70 - 142
sec-Butylbenzene	25.0	26.3		ug/L		105	70 - 134
tert-Butylbenzene	25.0	27.0		ug/L		108	70 - 135
Carbon disulfide	25.0	21.8		ug/L		87	58 - 130
Carbon tetrachloride	25.0	29.9		ug/L		119	70 - 146
Chlorobenzene	25.0	25.9		ug/L		104	70 - 130
Chloroethane	25.0	22.2		ug/L		89	62 - 138
Chloroform	25.0	25.9		ug/L		104	70 - 130
Chloromethane	25.0	19.8		ug/L		79	52 - 175
2-Chlorotoluene	25.0	26.7		ug/L		107	70 - 130

TestAmerica Pleasanton

QC Sample Results

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-171563/7

Matrix: Water

Analysis Batch: 171563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
4-Chlorotoluene	25.0	26.5		ug/L		106	70 - 130
Chlorodibromomethane	25.0	29.5		ug/L		118	70 - 145
1,2-Dichlorobenzene	25.0	25.6		ug/L		102	70 - 130
1,3-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
1,4-Dichlorobenzene	25.0	25.4		ug/L		102	70 - 130
1,3-Dichloropropane	25.0	26.8		ug/L		107	70 - 130
1,1-Dichloropropene	25.0	27.8		ug/L		111	70 - 130
1,2-Dibromo-3-Chloropropane	25.0	27.6		ug/L		110	70 - 136
Ethylene Dibromide	25.0	27.6		ug/L		110	70 - 130
Dibromomethane	25.0	25.9		ug/L		104	70 - 130
Dichlorodifluoromethane	25.0	23.4		ug/L		93	34 - 132
1,1-Dichloroethane	25.0	25.5		ug/L		102	70 - 130
1,2-Dichloroethane	25.0	25.3		ug/L		101	61 - 132
1,1-Dichloroethene	25.0	22.6		ug/L		90	64 - 128
cis-1,2-Dichloroethene	25.0	24.4		ug/L		98	70 - 130
trans-1,2-Dichloroethene	25.0	23.8		ug/L		95	68 - 130
1,2-Dichloropropane	25.0	26.2		ug/L		105	70 - 130
cis-1,3-Dichloropropene	25.0	30.1		ug/L		120	70 - 130
trans-1,3-Dichloropropene	25.0	32.2		ug/L		129	70 - 140
Ethylbenzene	25.0	25.9		ug/L		104	80 - 120
Hexachlorobutadiene	25.0	25.3		ug/L		101	70 - 130
2-Hexanone	125	126		ug/L		100	60 - 164
Isopropylbenzene	25.0	26.1		ug/L		105	70 - 130
4-Isopropyltoluene	25.0	25.8		ug/L		103	70 - 130
Methylene Chloride	25.0	23.1		ug/L		92	70 - 147
4-Methyl-2-pentanone (MIBK)	125	123		ug/L		99	58 - 130
Naphthalene	25.0	27.0		ug/L		108	70 - 130
N-Propylbenzene	25.0	26.5		ug/L		106	70 - 130
Styrene	25.0	25.9		ug/L		104	70 - 130
1,1,1,2-Tetrachloroethane	25.0	27.5		ug/L		110	70 - 130
1,1,2,2-Tetrachloroethane	25.0	26.5		ug/L		106	70 - 130
Tetrachloroethene	25.0	26.0		ug/L		104	70 - 130
Toluene	25.0	25.7		ug/L		103	78 - 120
1,2,3-Trichlorobenzene	25.0	25.5		ug/L		102	70 - 130
1,2,4-Trichlorobenzene	25.0	25.6		ug/L		102	70 - 130
1,1,1-Trichloroethane	25.0	26.8		ug/L		107	70 - 130
1,1,2-Trichloroethane	25.0	26.5		ug/L		106	70 - 130
Trichloroethene	25.0	26.3		ug/L		105	70 - 130
Trichlorofluoromethane	25.0	25.3		ug/L		101	66 - 132
1,2,3-Trichloropropane	25.0	27.1		ug/L		108	70 - 130
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	23.1		ug/L		92	42 - 162
1,2,4-Trimethylbenzene	25.0	25.9		ug/L		104	70 - 132
1,3,5-Trimethylbenzene	25.0	26.5		ug/L		106	70 - 130
Vinyl acetate	25.0	26.7		ug/L		107	43 - 163
Vinyl chloride	25.0	21.6		ug/L		86	54 - 135
m-Xylene & p-Xylene	25.0	26.1		ug/L		105	70 - 142
o-Xylene	25.0	25.5		ug/L		102	70 - 130

TestAmerica Pleasanton

QC Sample Results

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 720-171563/7

Matrix: Water

Analysis Batch: 171563

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
2,2-Dichloropropane	25.0	24.4		ug/L		97	70 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene	92		67 - 130
1,2-Dichloroethane-d4 (Surr)	94		72 - 130
Toluene-d8 (Surr)	101		70 - 130

Lab Sample ID: LCSD 720-171563/10

Matrix: Water

Analysis Batch: 171563

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Methyl tert-butyl ether	25.0	25.5		ug/L		102	62 - 130	4	20
Acetone	125	125		ug/L		100	26 - 180	5	30
Benzene	25.0	26.6		ug/L		106	79 - 130	2	20
Dichlorobromomethane	25.0	28.6		ug/L		115	70 - 130	2	20
Bromobenzene	25.0	25.7		ug/L		103	70 - 130	1	20
Chlorobromomethane	25.0	24.8		ug/L		99	70 - 130	2	20
Bromoform	25.0	25.5		ug/L		102	68 - 136	2	20
Bromomethane	25.0	22.9		ug/L		91	43 - 151	6	20
2-Butanone (MEK)	125	126		ug/L		101	54 - 130	5	20
n-Butylbenzene	25.0	26.8		ug/L		107	70 - 142	2	20
sec-Butylbenzene	25.0	27.0		ug/L		108	70 - 134	3	20
tert-Butylbenzene	25.0	27.4		ug/L		110	70 - 135	2	20
Carbon disulfide	25.0	23.1		ug/L		93	58 - 130	6	20
Carbon tetrachloride	25.0	30.7		ug/L		123	70 - 146	3	20
Chlorobenzene	25.0	26.4		ug/L		105	70 - 130	2	20
Chloroethane	25.0	23.4		ug/L		93	62 - 138	5	20
Chloroform	25.0	26.4		ug/L		106	70 - 130	2	20
Chloromethane	25.0	21.6		ug/L		86	52 - 175	9	20
2-Chlorotoluene	25.0	27.2		ug/L		109	70 - 130	2	20
4-Chlorotoluene	25.0	26.9		ug/L		108	70 - 130	1	20
Chlorodibromomethane	25.0	29.4		ug/L		118	70 - 145	0	20
1,2-Dichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
1,3-Dichlorobenzene	25.0	25.6		ug/L		102	70 - 130	1	20
1,4-Dichlorobenzene	25.0	25.7		ug/L		103	70 - 130	1	20
1,3-Dichloropropane	25.0	26.6		ug/L		106	70 - 130	1	20
1,1-Dichloropropene	25.0	28.7		ug/L		115	70 - 130	3	20
1,2-Dibromo-3-Chloropropane	25.0	28.3		ug/L		113	70 - 136	3	20
Ethylene Dibromide	25.0	27.2		ug/L		109	70 - 130	1	20
Dibromomethane	25.0	26.0		ug/L		104	70 - 130	0	20
Dichlorodifluoromethane	25.0	24.1		ug/L		96	34 - 132	3	20
1,1-Dichloroethane	25.0	26.4		ug/L		106	70 - 130	4	20
1,2-Dichloroethane	25.0	25.4		ug/L		101	61 - 132	0	20
1,1-Dichloroethane	25.0	23.5		ug/L		94	64 - 128	4	20
cis-1,2-Dichloroethane	25.0	25.1		ug/L		100	70 - 130	3	20
trans-1,2-Dichloroethane	25.0	24.9		ug/L		100	68 - 130	4	20
1,2-Dichloropropane	25.0	26.5		ug/L		106	70 - 130	1	20

TestAmerica Pleasanton

QC Sample Results

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCSD 720-171563/10
Matrix: Water
Analysis Batch: 171563

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
cis-1,3-Dichloropropene	25.0	30.1		ug/L		120	70 - 130	0	20
trans-1,3-Dichloropropene	25.0	31.7		ug/L		127	70 - 140	1	20
Ethylbenzene	25.0	26.3		ug/L		105	80 - 120	1	20
Hexachlorobutadiene	25.0	25.7		ug/L		103	70 - 130	2	20
2-Hexanone	125	122		ug/L		98	60 - 164	3	20
Isopropylbenzene	25.0	26.7		ug/L		107	70 - 130	2	20
4-Isopropyltoluene	25.0	26.5		ug/L		106	70 - 130	3	20
Methylene Chloride	25.0	23.8		ug/L		95	70 - 147	3	20
4-Methyl-2-pentanone (MIBK)	125	123		ug/L		98	58 - 130	1	20
Naphthalene	25.0	27.4		ug/L		109	70 - 130	1	20
N-Propylbenzene	25.0	26.9		ug/L		108	70 - 130	2	20
Styrene	25.0	26.4		ug/L		106	70 - 130	2	20
1,1,1,2-Tetrachloroethane	25.0	28.0		ug/L		112	70 - 130	2	20
1,1,2,2-Tetrachloroethane	25.0	26.8		ug/L		107	70 - 130	1	20
Tetrachloroethene	25.0	26.5		ug/L		106	70 - 130	2	20
Toluene	25.0	26.2		ug/L		105	78 - 120	2	20
1,2,3-Trichlorobenzene	25.0	25.9		ug/L		104	70 - 130	2	20
1,2,4-Trichlorobenzene	25.0	26.0		ug/L		104	70 - 130	1	20
1,1,1-Trichloroethane	25.0	27.7		ug/L		111	70 - 130	3	20
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 130	0	20
Trichloroethene	25.0	27.0		ug/L		108	70 - 130	3	20
Trichlorofluoromethane	25.0	26.8		ug/L		107	66 - 132	6	20
1,2,3-Trichloropropane	25.0	27.1		ug/L		108	70 - 130	0	20
1,1,2-Trichloro-1,2,2-trifluoroethane	25.0	24.2		ug/L		97	42 - 162	5	20
1,2,4-Trimethylbenzene	25.0	26.4		ug/L		106	70 - 132	2	20
1,3,5-Trimethylbenzene	25.0	27.0		ug/L		108	70 - 130	2	20
Vinyl acetate	25.0	26.9		ug/L		108	43 - 163	1	20
Vinyl chloride	25.0	22.3		ug/L		89	54 - 135	3	20
m-Xylene & p-Xylene	25.0	26.6		ug/L		106	70 - 142	2	20
o-Xylene	25.0	26.1		ug/L		104	70 - 130	2	20
2,2-Dichloropropane	25.0	27.3		ug/L		109	70 - 140	11	20

Surrogate	LCSD		Limits
	%Recovery	Qualifier	
4-Bromofluorobenzene	92		67 - 130
1,2-Dichloroethane-d4 (Surr)	93		72 - 130
Toluene-d8 (Surr)	101		70 - 130

Method: 8270C - Semivolatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-220648/1-A
Matrix: Water
Analysis Batch: 221879

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 220648

Analyte	MB MB		RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,4-Dioxane	ND		1.0		ug/L		11/24/14 15:51	12/02/14 08:22	1

TestAmerica Pleasanton

QC Sample Results

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Method: 8270C - Semivolatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-220648/1-A
 Matrix: Water
 Analysis Batch: 221879

Client Sample ID: Method Blank
 Prep Type: Total/NA
 Prep Batch: 220648

Surrogate	MB MB		Limits
	%Recovery	Qualifier	
1,4-Dioxane-d8 (Surr)	59		30 - 120

Prepared	Analyzed	Dil Fac
11/24/14 15:51	12/02/14 08:22	1

Lab Sample ID: LCS 440-220648/3-A
 Matrix: Water
 Analysis Batch: 221879

Client Sample ID: Lab Control Sample
 Prep Type: Total/NA
 Prep Batch: 220648

Analyte	Spike Added	LCS LCS		Unit	D	%Rec	%Rec. Limits
		Result	Qualifier				
1,4-Dioxane	2.00	0.978	J	ug/L		49	35 - 120

Surrogate	LCS LCS		Limits
	%Recovery	Qualifier	
1,4-Dioxane-d8 (Surr)	52		30 - 120

QC Association Summary

Client: Tetra Tech GEO
 Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

GC/MS VOA

Analysis Batch: 171563

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-61395-1	TRIP BLANK	Total/NA	Water	8260B	
720-61395-2	IA1-MW-13B	Total/NA	Water	8260B	
720-61395-3	IA1-MW-13C	Total/NA	Water	8260B	
720-61395-4	IA1-MW-13B-REP	Total/NA	Water	8260B	
LCS 720-171563/7	Lab Control Sample	Total/NA	Water	8260B	
LCS D 720-171563/10	Lab Control Sample Dup	Total/NA	Water	8260B	
MB 720-171563/25	Method Blank	Total/NA	Water	8260B	

GC/MS Semi VOA

Prep Batch: 220648

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-61395-5	IA1-MW-13B	Total/NA	Water	3520C	
720-61395-6	IA1-MW-13B-REP	Total/NA	Water	3520C	
720-61395-7	IA1-MW-13C	Total/NA	Water	3520C	
LCS 440-220648/3-A	Lab Control Sample	Total/NA	Water	3520C	
MB 440-220648/1-A	Method Blank	Total/NA	Water	3520C	

Analysis Batch: 221614

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-61395-5	IA1-MW-13B	Total/NA	Water	8270C	220648
720-61395-6	IA1-MW-13B-REP	Total/NA	Water	8270C	220648
720-61395-7	IA1-MW-13C	Total/NA	Water	8270C	220648

Analysis Batch: 221879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 440-220648/3-A	Lab Control Sample	Total/NA	Water	8270C	220648
MB 440-220648/1-A	Method Blank	Total/NA	Water	8270C	220648

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 720-61395-1

Date Collected: 11/19/14 00:00

Matrix: Water

Date Received: 11/20/14 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	171563	11/25/14 15:53	LPL	TAL PLS

Client Sample ID: IA1-MW-13B

Lab Sample ID: 720-61395-2

Date Collected: 11/19/14 10:00

Matrix: Water

Date Received: 11/20/14 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	171563	11/25/14 16:26	LPL	TAL PLS

Client Sample ID: IA1-MW-13C

Lab Sample ID: 720-61395-3

Date Collected: 11/19/14 10:12

Matrix: Water

Date Received: 11/20/14 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	171563	11/25/14 17:00	LPL	TAL PLS

Client Sample ID: IA1-MW-13B-REP

Lab Sample ID: 720-61395-4

Date Collected: 11/19/14 10:00

Matrix: Water

Date Received: 11/20/14 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	171563	11/25/14 17:33	LPL	TAL PLS

Client Sample ID: IA1-MW-13B

Lab Sample ID: 720-61395-5

Date Collected: 11/19/14 11:19

Matrix: Water

Date Received: 11/20/14 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			220648	11/24/14 15:51	IVA	TAL IRV
Total/NA	Analysis	8270C		1	221614	11/30/14 20:22	AI	TAL IRV

Client Sample ID: IA1-MW-13B-REP

Lab Sample ID: 720-61395-6

Date Collected: 11/19/14 11:19

Matrix: Water

Date Received: 11/20/14 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			220648	11/25/14 13:19	IVA	TAL IRV
Total/NA	Analysis	8270C		1	221614	11/30/14 20:43	AI	TAL IRV

TestAmerica Pleasanton

Lab Chronicle

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Client Sample ID: IA1-MW-13C

Lab Sample ID: 720-61395-7

Date Collected: 11/19/14 12:08

Matrix: Water

Date Received: 11/20/14 16:50

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3520C			220648	11/25/14 13:19	IVA	TAL IRV
Total/NA	Analysis	8270C		1	221614	11/30/14 21:05	AI	TAL IRV

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Certification Summary

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Laboratory: TestAmerica Pleasanton

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
California	State Program	9	2496	01-31-16

Laboratory: TestAmerica Irvine

All certifications held by this laboratory are listed. Not all certifications are applicable to this report.

Authority	Program	EPA Region	Certification ID	Expiration Date
Alaska	State Program	10	CA01531	06-30-15
Arizona	State Program	9	AZ0671	10-13-15
California	LA Cty Sanitation Districts	9	10256	01-31-15
California	State Program	9	2706	06-30-16
Guam	State Program	9	Cert. No. 12.002r	01-23-15
Hawaii	State Program	9	N/A	01-29-15 *
Nevada	State Program	9	CA015312007A	07-31-15
New Mexico	State Program	6	N/A	01-29-15
Northern Mariana Islands	State Program	9	MP0002	01-29-15
Oregon	NELAP	10	4005	01-29-15
USDA	Federal		P330-09-00080	06-06-15
USEPA UCMR	Federal	1	CA01531	01-31-15

* Certification renewal pending - certification considered valid.

TestAmerica Pleasanton

Method Summary

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL PLS
8270C	Semivolatile Organic Compounds (GC/MS)	SW846	TAL IRV

Protocol References:

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = TestAmerica Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

TAL PLS = TestAmerica Pleasanton, 1220 Quarry Lane, Pleasanton, CA 94566, TEL (925)484-1919

Sample Summary

Client: Tetra Tech GEO
Project/Site: Elwood's Quarter 4 2014

TestAmerica Job ID: 720-61395-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
720-61395-1	TRIP BLANK	Water	11/19/14 00:00	11/20/14 16:50
720-61395-2	IA1-MW-13B	Water	11/19/14 10:00	11/20/14 16:50
720-61395-3	IA1-MW-13C	Water	11/19/14 10:12	11/20/14 16:50
720-61395-4	IA1-MW-13B-REP	Water	11/19/14 10:00	11/20/14 16:50
720-61395-5	IA1-MW-13B	Water	11/19/14 11:19	11/20/14 16:50
720-61395-6	IA1-MW-13B-REP	Water	11/19/14 11:19	11/20/14 16:50
720-61395-7	IA1-MW-13C	Water	11/19/14 12:08	11/20/14 16:50

San Francisco
1220 Quarry Lane

Pleasanton, CA 94566
phone 925.484.1919 fax 925.600.3002

Chain of Custody Record
720-61395

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

TestAmerica Laboratories, Inc.
157782

Client Contact: Tetra Tech, Inc. 2969 Prospect Park Drive, Suite 100
Rancho Cordova, CA 95670
(916) 853-1800 Phone
(916) 853-1880 FAX
Project Name: Elwoods Quarter #2014
Site: 2 weeks 1 week 2 days 1 day
P O # 117-1084059.01

Project Manager: Steve Carlton
Calendar (C) or Work Days (W)
TAT if different from Below

Site Contact:
Lab Contact:
Date:
Carrier:
COC No. 1 of 1 COCs
Job No.
SDG No.
Sample Specific Notes:

Sample Identification	Sample Date	Sample Time	Sample Type	Matrix	# of Cont.	Filtered Sample	VOCs (8260B)	1,4-Dioxane (8270)
Trip Blank	11/14/14	0:00	Grab	H2O	2		X	
IA1-MW-13B	11/14/14	10:00	Grab	H2O	31		X	
IA1-MW-13C	11/14/14	10:12	Grab	H2O	5		X	
IA1-MW-13B-Rep	11/14/14	10:00	Grab	H2O	31		X	
IA1-MW-13B	11/14/14	11:19	Grab	H2O	2		X	
IA1-MW-13B-R.o	11/14/14	11:14	Grab	H2O	2		X	
IA1-MW-13C	11/14/14	12:00	Grab	H2O	2		X	



Preservation Used: 1=Ice, 2=HCl; 3=H2SO4; 4=HNO3; 5=NaOH; 6=Other

Possible Hazard Identification: Non-Hazard Flammable Skin Irritant Poison B Unknown

Special Instructions/OC Requirements & Comments:
email: stephen.carlton@tetratech.com & bill.schneider@tetratech.com
EMC EDD & GeoTracker EDD (Site ID 50720008)
Low Level Reporting

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
 Return To Client Disposal By Lab Archive For _____ Months

Relinquished by: Bill Shaver
Relinquished by: Steve Carlton
Relinquished by: James Nelson
Relinquished by: James Nelson

Company: Tetra Tech Inc.
Company: Tetra Tech
Company: Tetra Tech
Company: Tetra Tech

Date/Time: 11/14/14 15:00
Date/Time: 11/14/14 15:30
Date/Time: 11/14/14 16:50
Date/Time: 11/20/14 09:15

Received by:
Received by:
Received by:
Received by:

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 720-61395-1

Login Number: 61395

List Source: TestAmerica Pleasanton

List Number: 1

Creator: Mullen, Joan

Question	Answer	Comment
Radioactivity wasn't checked or is <= background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: Tetra Tech GEO

Job Number: 720-61395-1

Login Number: 61395

List Number: 2

Creator: Salas, Margarita

List Source: TestAmerica Irvine

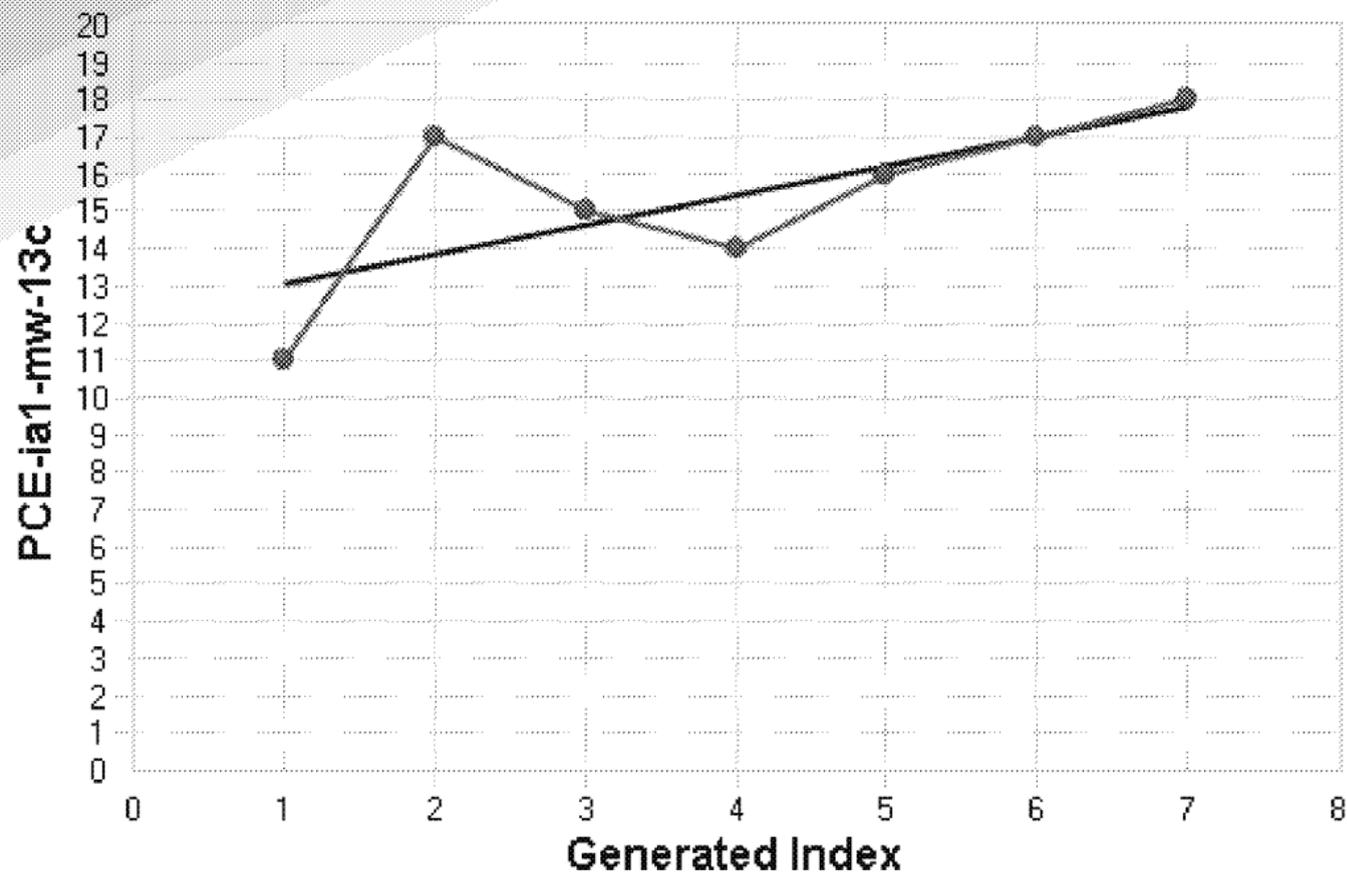
List Creation: 11/21/14 01:26 PM

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	N/A	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	N/A	Received project as a subcontract.
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	N/A	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Attachment C

Mann-Kendall Trend Test

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis

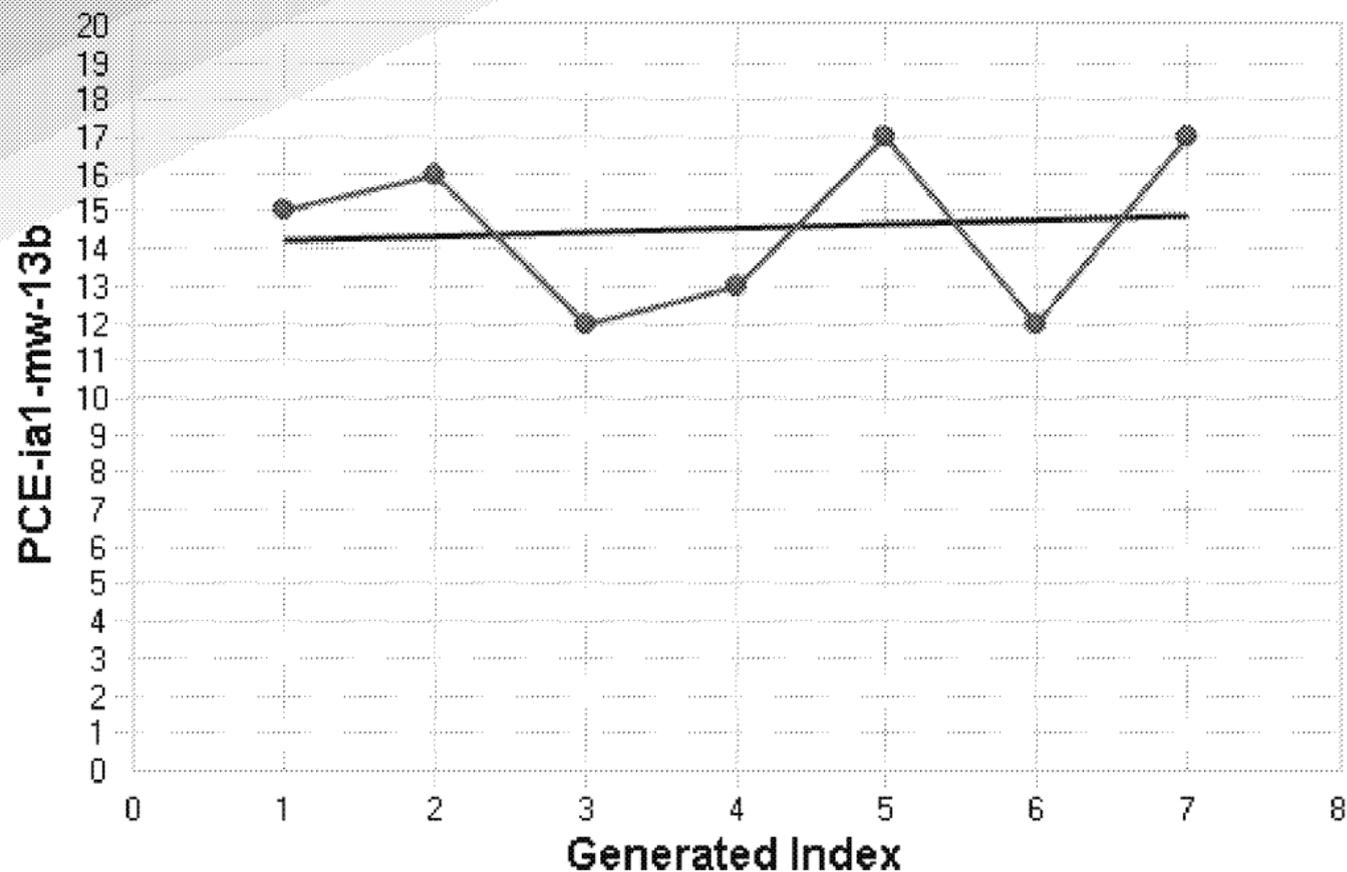
n	7
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	6.5828
Standardized Value of S	1.6710
Test Value (S)	12
Tabulated p-value	0.0350
Approximate p-value	0.0474

OLS Regression Line (Blue)

OLS Regression Slope	0.7857
OLS Regression Intercept	12.2857

Statistically significant evidence of an increasing trend at the specified level of significance.

Mann-Kendall Trend Test



Mann-Kendall Trend Analysis

n	7
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	6.5064
Standardized Value of S	0.3074
Test Value (S)	3
Tabulated p-value	0.3860
Approximate p-value	0.3793

OLS Regression Line (Blue)

OLS Regression Slope	0.1071
OLS Regression Intercept	14.1429

Insufficient statistical evidence of a significant trend at the specified level of significance.

Attachment D

DTSC e-mail

Schmierer, Bill

From: Rohrer, Jim@DTSC <Jim.Rohrer@dtsc.ca.gov>
Sent: Monday, June 09, 2014 3:48 PM
To: rstevens@modestogov.com
Cc: Carlton, Stephen; Beckman, William@DTSC; Linderholm, Durin@Waterboards; Ridenour, Charlie@DTSC
Subject: sampling groundwater at City Well #1

Dear Mr. Stevens,

As we just discussed on the telephone earlier today, DTSC is concerned that groundwater at City Well #1, that is downgradient of the former Elwood's property may become impacted with tetrachloroethene (PCE) at a concentration of concern. This possibility is indicated by what DTSC understands to be a persistent concentration of PCE that is greater than the MCL in groundwater from monitoring wells IA1-MW-13B and IA1-MW-13C. These wells are located approximately 400 feet west to northwest of City Well #1. DTSC believes that City Well #1 needs to be sampled on a more frequent basis to assess if this well is or will be impacted with PCE at a concentration of concern. Groundwater from City Well # 1 should be sampled as soon as possible. If PCE is detected in groundwater from City Well #1 at a concentration of half the MCL (2.5 micrograms/liter) then this well should be sampled monthly. If PCE is detected at a concentration of less than half the MCL then this well should be sampled on a quarterly basis for at least one year to assess the potential for significant PCE impacts in groundwater being pumped from City Well #1.

DTSC understands that if City Well #1 becomes impacted with PCE at a concentration that is at or greater than the MCL then the City of Modesto will build a well head treatment system at this well to treat the PCE.

Another item of note is that I have asked Mr. Steve Carlton about the possibility of 1,4-dioxane being present as a contaminant of concern at dry cleaner sites. Steve has since spoken with Mr. Tom Mohr, a respected expert in regard to 1,4-dioxane, to help in assessing the possibility of groundwater being impacted by 1,4-dioxane at a PCE site. I now understand that there is no known documentation of 1,4-dioxane being present in PCE and that PCE was stable to the point where 1,4-dioxane would not be needed as a stabilizer. However, as an added precaution, DTSC requests that one groundwater sample from monitoring well IA1-MW-13C be tested for 1,4-dioxane.

Thank you for your consideration in this matter.

Jim

James Rohrer, P.G.
Project Manager
California Department of Toxic Substances Control
8800 Cal Center Drive
Sacramento, CA 95826
(916) 255-3709